

PRODUCT SUBMITTAL



SPAX[®]

MULTI-MATERIAL & SPECIALTY - INTERIOR USE

JOB NAME:

CONTRACTOR:

DATE:

NOTES:





INTERIOR USE FASTENERS FOR MULTI-MATERIAL & SPECIALTY APPLICATIONS



SPAX® multi-material engineered fasteners are the versatile fastening solution for multiple materials including wood, concrete, masonry, sheet metal, plastic, and treated lumber. Use our high-performance, professional-grade screws for a wide range of interior uses.

SPAX® specialty fasteners can be used for a variety of interior applications, including cabinets, hardwoods, medium density fiberboard, and rear panel attachment.

FEATURES:

- Heat treated to grade 5 durability
- IRC/IBC Code Compliant
- Patented thread serrations reduce driving torque to prolong power tool battery life
- Unique 4CUT™ Point prevents splitting and requires no pre-drilling in wood

SCREW HEAD OPTIONS:

- Unidrive flat head style
- Unidrive pan head style
- T-STAR *plus* trim head style
- T-STAR *plus* wafer head style

COATING OPTIONS:

- Yellow zinc coating for interior applications
- Zinc coating for interior applications

CODE / TECHNICAL REPORTS:

- IRC/IBC Code Compliant DrJ TER No. 2010-02 Properties Report

INSTALLATION NOTES:

- Do not install fasteners in locations exposed to saltwater or salt spray.
- For use in concrete/masonry attachment refer to pilot hole charts
- For use in sheet metal attachment – no pre-drill is required for thickness up to 24 gauge

ORIGINS:

- Manufactured in Bryan, Ohio



MATERIALS & COATINGS:

ZINC:

“Clear zinc” is tested and recognized for use in above ground contact pressure treated lumber for interior dry/damp general construction applications (e.g. AWPA UC1-UC2).

YELLOW ZINC:

“Yellow zinc” is tested and recognized for use in untreated and above ground contact pressure treated lumber for interior dry/damp general construction applications (e.g. AWPA UC1-UC2).

USE CATEGORY	BRIEF DESCRIPTION
UC1	Interior Dry
UC2	Interior Damp
UC3A	Exterior Above Ground, Coated with Rapid Water Runoff
UC3B	Exterior Above Ground, Uncoated or Poor Water Runoff
UC4A	Ground Contact, General Use
UC4B	Ground Contact, Heavy Duty
UC4C	Ground Contact, Extreme Duty
UC5A	Marine Use, Northern Waters (Salt or Brackish Water)
UC5B	Marine Use, Central Waters (Salt or Brackish Water)
UC5C	Marine Use, Southern Waters (Salt or Brackish Water)
UCFA	Interior Above Ground Fire Protection
UCFB	Exterior Above Ground Fire Protection

Information referenced from the AWPA site: <https://awpa.com/info/technical/codes>

PRODUCT SUBMITTAL



MULTI-MATERIAL & SPECIALTY - INTERIOR USE

CHECK ALL THAT APPLY FOR SUBMITTAL

HEAD TYPE:

- Flat Head
- Wafer Head
- Pan Head
- Trim Head

SIZE:

- #6
- #8
- #10

COATING TYPE:

- Zinc (Interior)
- Yellow Zinc (Interior)

LENGTH:

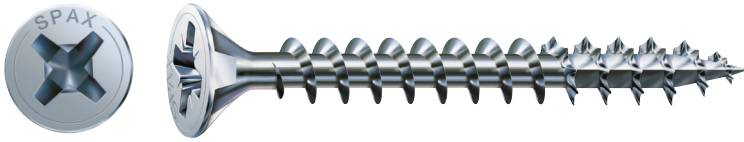
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PRODUCT SUBMITTAL



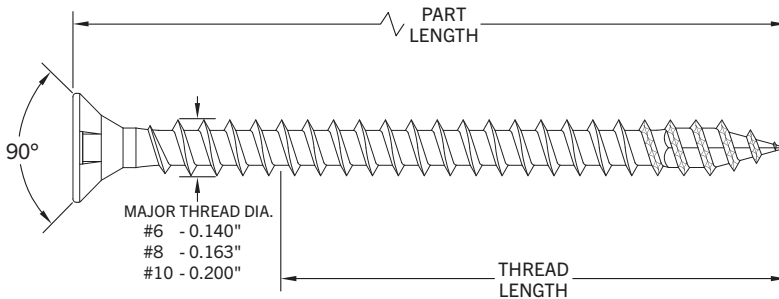
UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC



UNIDRIVE FLAT HEAD ZINC

SPAX® UNIDRIVE (combination drive — Phillips and Square) Flat Head fasteners with zinc coating are designed for use in multiple material connections often found inside residential buildings. These fasteners are often used by home owners to replace older screw types

and the standard full thread design works best when the side member being attached to the main member is pre-drilled. The flat head design provides a countersinking feature for a clean-flush finish.



PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#6 x 1/2"	Full	0.270"	2	1	50	Retail Pax ^{®*}	10	4101010350132
					150	Small Retail Pax ^{®*}	10	41010103501342
#6 x 5/8"	Full	0.270"	2	1	50	Retail Pax ^{®*}	10	4101010350162
					150	Small Retail Pax ^{®*}	10	41010103501642
					582	1 lb. Box	5	4101010350164
#6 x 3/4"	Full	0.270"	2	1	45	Retail Pax ^{®*}	10	4101010350202
					100	Large Retail Pax ^{®*}	10	41010103502042
					480	1 lb. Box	5	4101010350204
#6 x 1"	Full	0.270"	2	1	40	Retail Pax ^{®*}	10	4101010350252
					100	Large Retail Pax ^{®*}	10	41010103502542
					384	1 lb. Box	5	4101010350254
#6 x 1-1/4"	Full	0.270"	2	1	35	Retail Pax ^{®*}	10	4101010350322
					100	Large Retail Pax ^{®*}	10	41010103503242
					335	1 lb. Box	5	4101010350324

NOTE: Only sold in master cartons.
* Bit not included.



PRODUCT SUBMITTAL



UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC

PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#6 x 1-1/2"	Full	0.270"	2	1	30	Retail Pax**	10	4101010350402
					283	1 lb. Box	5	4101010350404
#6 x 1-3/4"	Full	0.270"	2	1	25	Retail Pax**	10	4101010350452
#8 x 5/8"	Full	0.320"	2	2	40	Retail Pax**	10	4101010400162
					405	1 lb. Box	5	4101010400164
#8 x 3/4"	Full	0.320"	2	2	35	Retail Pax**	10	4101010400202
					100	Large Retail Pax**	10	41010104002042
					350	1 lb. Box	5	4101010400204
#8 x 1"	Full	0.320"	2	2	30	Retail Pax**	10	4101010400252
					75	Large Retail Pax**	10	41010104002542
#8 x 1-1/4"	Full	0.320"	2	2	30	Retail Pax**	10	4101010400322
					75	Large Retail Pax**	10	41010104003242
					240	1 lb. Box	5	4101010400324
#8 x 1-1/2"	Full	0.320"	2	2	25	Retail Pax**	10	4101010400402
					40	Large Retail Pax**	10	41010104004042
					197	1 lb. Box	5	4101010400404
#8 x 1-3/4"	Full	0.320"	2	2	20	Retail Pax**	10	4101010400452
#8 x 2"	Full	0.320"	2	2	20	Retail Pax**	10	4101010400502
					40	Large Retail Pax**	10	41010104005042
					161	1 lb. Box	5	4101010400504
#8 x 2-1/2"	1.970"	0.320"	2	2	20	Retail Pax**	10	4101010400602
					40	Large Retail Pax**	10	41010104006042
					133	1 lb. Box	5	4101010400604
					1500	Bulk Pail	N/A	3101010400600
#10 x 3/4"	Full	0.390"	2	2	25	Retail Pax**	10	4101010500202
#10 x 1"	Full	0.390"	2	2	20	Retail Pax**	10	4101010500252
					100	Large Retail Pax**	10	41010105002542
#10 x 1-1/4"	Full	0.390"	2	2	20	Retail Pax**	10	4101010500322
#10 x 2"	Full	0.390"	2	2	12	Retail Pax**	10	4101010500502
					105	1 lb. Box	5	4101010500504
					1500	Bulk Pail	N/A	3101010500500
#10 x 2-1/2"	2.275"	0.390"	2	2	12	Retail Pax**	10	4101010500602
					88	1 lb. Box	5	4101010500604
					1500	Bulk Pail	N/A	3101010500600

NOTE: Only sold in master cartons.
* Bit not included.



PRODUCT SUBMITTAL



UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC

PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#10 x 3"	2.375"	0.390"	2	2	16	Retail Pax**	10	4101010500752
					72	1 lb. Box	5	4101010500754
					1500	Bulk Pail	N/A	3101010500750
#10 x 3-1/2"	2.375"	0.390"	2	2	57	1 lb. Box	5	4101010500904
					1500	Bulk Pail	N/A	3101010500900

NOTE: Only sold in master cartons.

* Bit not included.

FASTENER LENGTHS

PART LENGTH	HEAD	FASTENER	PART LENGTH	HEAD	FASTENER
#6 x 5/8"			#8 x 1-3/4"		
#6 x 3/4"			#8 x 2"		
#6 x 1"			#8 x 2-1/2"		
#6 x 1-1/4"			#10 x 3/4"		
#6 x 1-1/2"			#10 x 1"		
#6 x 1-3/4"			#10 x 1-1/4"		
#8 x 5/8"			#10 x 1-1/2"		
#8 x 3/4"			#10 x 2"		
#8 x 1"			#10 x 2-1/2"		
#8 x 1-1/4"			#10 x 3"		
#8 x 1-1/2"			#10 x 3-1/2"		



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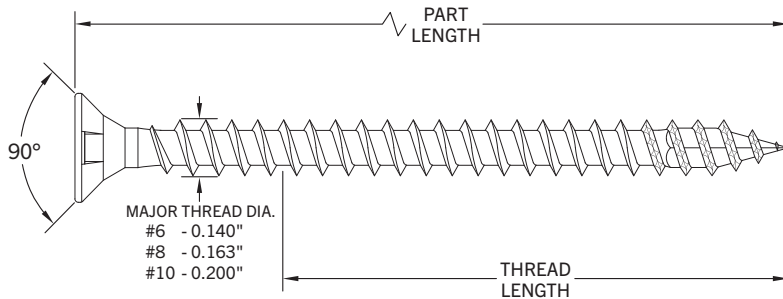
UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC



UNIDRIVE FLAT HEAD YELLOW ZINC

SPAX® UNIDRIVE (combination drive — Phillips and Square) Flat Head fasteners with yellow zinc coating are designed for use in multiple material connections often found inside residential buildings. These fasteners are often used by home owners to replace older screw types

and the standard full thread design works best when the side member being attached to the main member is pre-drilled. The flat head design provides a countersinking feature for a clean-flush finish.



PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#6 x 1/2"	Full	0.270"	2	1	50	Retail Pax**	10	4101020350132
#6 x 5/8"	Full	0.270"	2	1	50	Retail Pax**	10	4101020350162
#6 x 1"	Full	0.270"	2	1	40	Retail Pax**	10	4101020350252
#6 x 1-1/4"	Full	0.270"	2	1	35	Retail Pax**	10	4101020350322
#8 x 3/4"	Full	0.320"	2	2	35	Retail Pax**	10	4101020400202
#8 x 1"	Full	0.320"	2	2	30	Retail Pax**	10	4101020400252
#8 x 1-1/4"	Full	0.320"	2	2	30	Retail Pax**	10	4101020400322
#8 x 1-1/2"	Full	0.320"	2	2	25	Retail Pax**	10	4101020400402
					197	1 lb. Box	5	4101020400404
#8 x 2"	Full	0.320"	2	2	20	Retail Pax**	10	4101020400502
					161	1 lb. Box	5	4101020400504
#8 x 2-1/2"	1.970"	0.320"	2	2	20	Retail Pax**	10	4101020400602
					133	1 lb. Box	5	4101020400604

NOTE: Only sold in master cartons.
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UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC

PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#10 x 2"	Full	0.390"	2	2	12	Retail Pax**	10	4101020500502
					105	1 lb. Box	5	4101020500504
#10 x 2-1/2"	2.275"	0.390"	2	2	12	Retail Pax**	10	4101020500602
					81	1 lb. Box	5	4101020500604
#10 x 3"	2.375"	0.390"	2	2	16	Retail Pax**	10	4101020500752
					72	1 lb. Box	5	4101020500754
					200	3 lb. Box	3	41010205007545

NOTE: Only sold in master cartons.
* Bit not included.

FASTENER LENGTHS

PART LENGTH	HEAD	FASTENER	PART LENGTH	HEAD	FASTENER
#6 x 1/2"			#8 x 1-1/2"		
#6 x 5/8"			#8 x 2"		
#6 x 1"			#8 x 2-1/2"		
#6 x 1-1/4"			#10 x 2"		
#8 x 3/4"			#10 x 2-1/2"		
#8 x 1"			#10 x 3"		
#8 x 1-1/4"					

MASONRY & CONCRETE PRE-DRILL SPECIFICATIONS

NOTE: In masonry/concrete, pre-drill a hole at least 1/4" to 1/2" longer than the length of the screw (refer to chart). No anchor required. In sheet metal, no pre-drilling is required up to 24 gauge.

SCREW DIAMETER	DRILL BIT	WEIGHT
#6	Not Recommended	Not Recommended
#8	1/8"	Light
#10	5/32"	Medium



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UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC

PERFORMANCE SPECIFICATIONS



TER No. 2010-02
Construction Screw Properties

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2,3,4}					
	SOUTHERN PINE (SG=0.55)		DOUGLAS-FIR (SG=0.50)		HEM FIR & SPRUCE-PINE-FIR (SG=0.42)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	140	179	133	150	105	125
#8	175	157	133	157	127	123
#10	190	315	176	238	144	177

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2}											
	PLYWOOD 15/32" (0.39)		PLYWOOD 19/32" (0.39)		PLYWOOD 23/32" (0.50)		OSB 15/32" (0.50)		OSB 19/32" (0.50)		OSB 23/32" (0.50)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	51	-	83	-	134	-	29	-	36	-	52	-
#8	51	120	83	120	162	212	36	68	48	78	52	110
#10	90	151	92	177	186	293	54	78	54	78	66	110

¹ Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a $C_D = 1.0$. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

² Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.

³ Head pull-through values for #6 diameter and larger in Southern pine, Douglas-Fir, Hem Fir and Spruce-Pine-Fir are minimum 1.0" side member thickness.

⁴ Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.

⁵ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

DIAMETER	BENDING YIELD STRENGTH ¹ , f_{yb} (psi)	ALLOWABLE STEEL STRENGTH (lbs)	
		TENSILE	SHEAR ²
#6	198,000	310	265
#8	187,000	460	345
#10	187,000	690	545

¹ Bending yield strength, f_{yb} , is determined in accordance with *ASTM F1575* using minor thread diameter when fastener is tested in thread section.

² Shear strength is determined in accordance with *AISI S904* using minor thread diameter when fastener is tested in threaded section.

DIAMETER	REFERENCE LATERAL SHEAR VALUE ^{4,5,6} , Z (lbf)				
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	WOOD SPECIES (SPECIFIC GRAVITY ^{2,3})		
			SP (0.55)	DF-L (0.50)	SPF/HF (0.42)
#6 x 1-1/2"	3/4"	3/4"	57	50	37
#6 x 1-3/4"	1"	3/4"	63	56	44
#6 x 2"	1"	3/4"	63	56	44
#8 x 1-1/2"	3/4"	3/4"	70	59	43
#8 x 1-3/4"	1"	3/4"	80	69	50

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Penetration depth includes the length of tapered tip.

² The species applies to both the main and the side members. Where the Members are different specific gravities, use the lower of the two.

³ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

⁴ The fastener orientation shall be perpendicular to the grain, and the underside of the fastener head shall be installed flush with the surface of the side member.

⁵ Lateral design values apply to both perpendicular grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁶ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS 11.3.1*.



PRODUCT SUBMITTAL



UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC

DIAMETER	REFERENCE LATERAL SHEAR VALUE ^{4,5,6} , Z (lbf)				
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	WOOD SPECIES (SPECIFIC GRAVITY ^{2,3})		
			SP (0.55)	DF-L (0.50)	SPF/HF (0.42)
#8 x 2"	1-1/4"	3/4"	80	70	55
#8 x 2-1/2"	1"	1-1/2"	84	75	58
#10 x 1-1/2"	3/4"	3/4"	86	72	53
#10 x 2"	1-1/4"	3/4"	112	99	73
#10 x 2-1/2"	1"	1-1/2"	115	101	81
#10 x 2-3/4"	1-1/4"	1-1/2"	132	117	91
#10 x 3"	1-1/2"	1-1/2"	132	121	103
#10 x 3-1/2"	1-1/2"	1-1/2"	132	121	103

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Penetration depth includes the length of tapered tip.

² The species applies to both the main and the side members. Where the Members are different specific gravities, use the lower of the two.

³ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

⁴ The fastener orientation shall be perpendicular to the grain, and the underside of the fastener head shall be installed flush with the surface of the side member.

⁵ Lateral design values apply to both perpendicular grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁶ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS 11.3.1*.

DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE ^{1,3,4} , Z (lbf)	
			OSB ⁵ (0.50)	PLYWOOD ⁵ (0.39)
#6 x 1"	9/16"	7/16"	28	-
#6 x 1"	17/32"	15/32"	28	22
#6 x 1-1/4"	13/16"	7/16"	35	-
#6 x 1-1/4"	25/32"	15/32"	35	29
#6 x 1-1/4"	21/32"	19/32"	36	28
#6 x 1-1/4"	17/32"	23/32"	38	29
#6 x 1-1/2"	1-1/16"	7/16"	41	-
#6 x 1-1/2"	1-1/32"	15/32"	42	35
#6 x 1-1/2"	29/32"	19/32"	42	35
#6 x 1-1/2"	25/32"	23/32"	43	34
#6 x 1-3/4"	1-5/16"	7/16"	41	-
#6 x 1-3/4"	1-9/32"	15/32"	42	35
#6 x 1-3/4"	1-5/32"	19/32"	46	37
#6 x 1-3/4"	1-1/32"	23/32"	50	40
#6 x 2"	1-9/16"	7/16"	41	-
#6 x 2"	1-17/32"	15/32"	42	35
#6 x 2"	1-13/32"	19/32"	46	37
#6 x 2"	1-9/32"	23/32"	51	40

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.

² Penetration depth includes the length of the tapered tip.

³ Lateral design values apply to both perpendicular to grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁴ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

⁵ OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.



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UNIDRIVE FLAT HEAD ZINC & YELLOW ZINC

DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE ^{1,3,4} , Z (lbf)	
			OSB ⁵ (0.50)	PLYWOOD ⁵ (0.39)
#8 x 1-1/4"	13/16"	7/16"	40	-
#8 x 1-1/4"	25/32"	15/32"	40	33
#8 x 1-1/4"	21/32"	19/32"	42	32
#8 x 1-1/2"	1-1/16"	7/16"	51	-
#8 x 1-1/2"	1-1/32"	15/32"	50	44
#8 x 1-1/2"	29/32"	19/32"	49	41
#8 x 1-1/2"	25/32"	23/32"	51	39
#8 x 1-3/4"	1-5/16"	7/16"	53	-
#8 x 1-3/4"	1-9/32"	15/32"	54	46
#8 x 1-3/4"	1-5/32"	19/32"	59	48
#8 x 1-3/4"	1-1/32"	23/32"	58	48
#8 x 2"	1-9/16"	7/16"	53	-
#8 x 2"	1-17/32"	15/32"	54	46
#8 x 2"	1-13/32"	19/32"	59	48
#8 x 2"	1-9/32"	23/32"	64	51
#8 x 2-1/2"	1-9/16"	7/16"	53	-
#8 x 2-1/2"	1-17/32"	15/32"	54	46
#8 x 2-1/2"	1-13/32"	19/32"	59	48
#8 x 2-1/2"	1-9/32"	23/32"	64	51
#10 x 1-1/4"	13/16"	7/16"	48	-
#10 x 1-1/4"	25/32"	15/32"	48	40
#10 x 1-1/2"	1-1/16"	7/16"	61	-
#10 x 1-1/2"	1-1/32"	15/32"	60	53
#10 x 1-1/2"	29/32"	19/32"	60	49
#10 x 1-1/2"	25/32"	23/32"	63	48
#10 x 2"	1-9/16"	7/16"	80	-
#10 x 2"	1-17/32"	15/32"	81	70
#10 x 2"	1-13/32"	19/32"	85	72
#10 x 2"	1-9/32"	23/32"	83	71
#10 x 2-1/2"	2-1/16"	7/16"	80	-
#10 x 2-1/2"	1-17/32"	15/32"	81	70
#10 x 2-1/2"	1-29/32"	19/32"	85	72
#10 x 2-1/2"	1-25/32"	23/32"	90	74

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.

² Penetration depth includes the length of the tapered tip.

³ Lateral design values apply to both perpendicular to grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁴ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

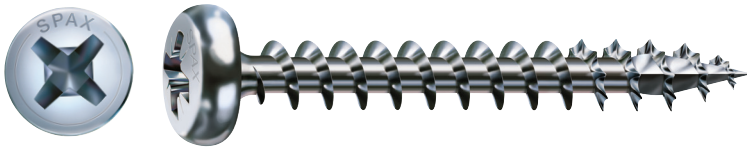
⁵ OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.



PRODUCT SUBMITTAL



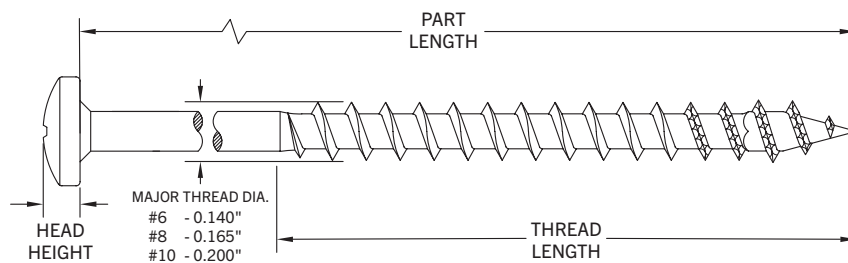
UNIDRIVE PAN HEAD ZINC



UNIDRIVE PAN HEAD ZINC

SPAX® UNIDRIVE Pan Head fasteners with zinc coating are designed for use in multiple material connections often found inside residential buildings. Most of these screws are used to attach thin metal fixtures/brackets with pre-drilled holes to wood or concrete/masonry substrates where countersinking the head is not wanted.

The wide heads utilize a large bearing surface which allows for a firm hold on the side member and reduces over-penetration of the head in to the main member. These fasteners often replace hex-head type fasteners for better clearance and more aesthetically pleasing finish look.



PRODUCT SELECTION

PART LENGTH	THREAD LENGTH		HEAD DIA. HEAD HT.	PHILLIP #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
	FULL	PARTIAL							
#6 x 1/2"	Full	N/A	0.270" 0.090"	2	1	50	Retail Pax**	10	4111010350132
						500	1 lb. Box	5	4111010350134
#6 x 5/8"	Full	N/A	0.270" 0.090"	2	1	50	Retail Pax**	10	4111010350162
						445	1 lb. Box	5	4111010350164
						2500	Mini Pail	3	3111010350168
#6 x 3/4"	Full	N/A	0.270" 0.090"	2	1	400	1 lb. Box	5	4111010350204
#8 x 5/8"	Full	N/A	0.305" 0.105"	2	2	320	1 lb. Box	5	4111010400164
						35	Retail Pax**	10	4111010400202
						100	Large Retail Pax**	10	4111010400204
						280	1 lb. Box	5	4111010400204
						1500	Mini Pail	3	3111010400208

NOTE: Only sold in master cartons.
* Bit not included.



PRODUCT SUBMITTAL



UNIDRIVE PAN HEAD ZINC

PRODUCT SELECTION

PART LENGTH	THREAD LENGTH		HEAD DIA. HEAD HT.	PHILLIP #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
	FULL	PARTIAL							
#8 x 1"	Full	N/A	0.305" 0.105"	2	2	30	Retail Pax**	10	4111010400252
						100	Large Retail Pax**	10	41110104002542
						225	1 lb. Box	5	4111010400254
#8 x 1-1/4"	Full	N/A	0.305" 0.105"	2	2	30	Retail Pax**	10	4111010400322
						200	1 lb. Box	5	4111010400324
#8 x 1-1/2"	Full	N/A	0.305" 0.105"	2	2	25	Retail Pax**	10	4111010400402
						180	1 lb. Box	5	4111010400404
#8 x 2"	Full	N/A	0.305" 0.105"	2	2	140	1 lb. Box	5	4111010400504
#10 x 5/8"	Full	N/A	0.380" 0.125"	2	2	25	Retail Pax**	10	4111010500162
						175	1 lb. Box	5	4111010500164
10 x 3/4"	Full	N/A	0.380" 0.125"	2	2	20	Retail Pax**	10	4111010500202
						160	1 lb. Box	5	4111010500204
10 x 1"	Full	N/A	0.380" 0.125"	2	2	20	Retail Pax**	10	4111010500252
						135	1 lb. Box	5	4111010500254

NOTE: Only sold in master cartons.
* Bit not included.

FASTENER LENGTHS

PART LENGTH	HEAD	FASTENER	PART LENGTH	HEAD	FASTENER
#6 x 1/2"			#8 x 1-1/4"		
#6 x 5/8"			#8 x 1-1/2"		
#6 x 3/4"			#8 x 2"		
#8 x 5/8"			#10 x 5/8"		
#8 x 3/4"			#10 x 3/4"		
#8 x 1"			#10 x 1"		

MASONRY & CONCRETE PRE-DRILL SPECIFICATIONS

NOTE: In masonry/concrete, pre-drill a hole at least 1/4" to 1/2" longer than the length of the screw (refer to chart). No anchor required. In sheet metal, no pre-drilling is required up to 24 gauge.

SCREW DIAMETER	DRILL BIT	WEIGHT
#6	Not Recommended	Not Recommended
#8	1/8"	Light
#10	5/32"	Medium



PRODUCT SUBMITTAL



UNIDRIVE PAN HEAD ZINC

PERFORMANCE SPECIFICATIONS



TER No. 2010-02
Construction Screw Properties

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2,3,4}					
	SOUTHERN PINE (SG=0.55)		DOUGLAS-FIR (SG=0.50)		HEM FIR & SPRUCE-PINE-FIR (SG=0.42)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	140	179	133	150	105	125
#8	175	157	133	157	127	123
#10	190	315	176	238	144	177

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2}											
	PLYWOOD 15/32" (0.39)		PLYWOOD 19/32" (0.39)		PLYWOOD 23/32" (0.50)		OSB 15/32" (0.50)		OSB 19/32" (0.50)		OSB 23/32" (0.50)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	46	-	73	-	144	-	36	-	41	-	41	-
#8	51	120	83	120	162	212	36	68	48	78	52	110
#10	90	151	92	177	186	293	54	78	54	78	66	110

¹ Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a $C_D = 1.0$. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

² Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.

³ Head pull-through values for #6 diameter and larger in Southern pine, Douglas-Fir, Hem Fir and Spruce-Pine-Fir are minimum 1.0" side member thickness.

⁴ Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.

⁵ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

DIAMETER	BENDING YIELD STRENGTH ¹ , f_y (psi)	ALLOWABLE STEEL STRENGTH (lbs)	
		TENSILE	SHEAR ²
#6	198,000	310	265
#8	187,000	460	345
#10	187,000	690	545

¹ Bending yield strength, f_y , is determined in accordance with *ASTM F1575* using minor thread diameter when fastener is tested in thread section.

² Shear strength is determined in accordance with *AISI S904* using minor thread diameter when fastener is tested in threaded section.

DIAMETER	REFERENCE LATERAL SHEAR VALUE ^{4,5,6} , Z (lbf)				
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	WOOD SPECIES (SPECIFIC GRAVITY ^{2,3})		
			SP (0.55)	DF-L (0.50)	SPF/HF (0.42)
#8 x 1-1/2"	3/4"	3/4"	70	59	43
#8 x 2"	1-1/4"	3/4"	80	70	55

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Penetration depth includes the length of tapered tip.

² The species applies to both the main and the side members. Where the Members are different specific gravities, use the lower of the two.

³ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

⁴ The fastener orientation shall be perpendicular to the grain, and the underside of the fastener head shall be installed flush with the surface of the side member.

⁵ Lateral design values apply to both perpendicular grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁶ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS 11.3.1*.



PRODUCT SUBMITTAL



UNIDRIVE PAN HEAD ZINC

DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE ^{1,3,4} , Z (lbf)	
			OSB ⁵ (0.50)	PLYWOOD ⁵ (0.39)
#8 x 1-1/4"	13/16"	7/16"	40	-
#8 x 1-1/4"	25/32"	15/32"	40	33
#8 x 1-1/4"	21/32"	19/32"	42	32
#8 x 1-1/2"	1-1/16"	7/16"	51	-
#8 x 1-1/2"	1-1/32"	15/32"	50	44
#8 x 1-1/2"	29/32"	19/32"	49	41
#8 x 1-1/2"	25/32"	23/32"	51	39
#8 x 2"	1-9/16"	7/16"	53	-
#8 x 2"	1-17/32"	15/32"	54	46
#8 x 2"	1-13/32"	19/32"	59	48
#8 x 2"	1-9/32"	23/32"	64	51

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.

² Penetration depth includes the length of the tapered tip.

³ Lateral design values apply to both perpendicular to grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁴ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

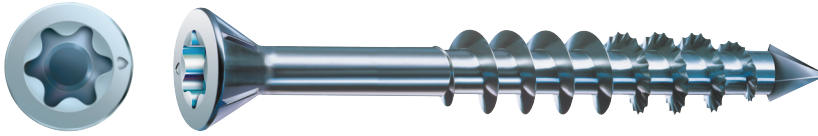
⁵ OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.



PRODUCT SUBMITTAL



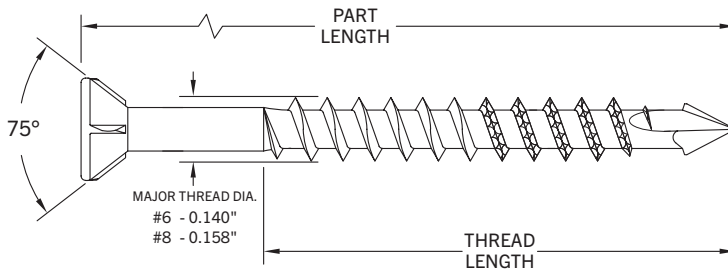
T-STAR *plus* TRIM HEAD ZINC MDF/HARDWOOD



T-STAR *plus* TRIM HEAD ZINC MDF/HARDWOOD

SPAX® MDF / Hardwood fasteners with T-STAR *plus* trim head, UNIQUE CUT™ POINT and zinc coating are designed for use in delicate and thin lumber used in interior finishing applications. The UNIQUE CUT™ POINT

provides a pre-drilling feature for easy installation in hardwood trim and medium density fiberboards. These fasteners are often used in fine woodworking and cabinet assembly.



PRODUCT SELECTION

PART LENGTH	THREAD LENGTH		HEAD SIZE	DRIVE/BIT SIZE	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
	FULL	PARTIAL						
#6 x 1-1/2"	N/A	1.060"	0.230"	T15+	300	1 lb. Box	5	4351010350404
#8 x 1-3/4"	N/A	1.160"	0.270"	T20+	200	1 lb. Box	5	4351010400454
#8 x 2-1/2"	N/A	1.380"	0.270"	T20+	154	1 lb. Box	5	4351010400604

NOTE: Only sold in master cartons.

FASTENER LENGTHS

PART LENGTH	HEAD	FASTENER	PART LENGTH	HEAD	FASTENER
#6 x 1-1/2"			#8 x 2-1/2"		
#8 x 1-3/4"					

PRODUCT SUBMITTAL



T-STAR *plus* TRIM HEAD ZINC MDF/HARDWOOD

PERFORMANCE SPECIFICATIONS



TER No. 2010-02
Construction Screw Properties

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2,3,4}					
	SOUTHERN PINE (SG=0.55)		DOUGLAS-FIR (SG=0.50)		HEM FIR & SPRUCE-PINE-FIR (SG=0.42)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	124	N/A	108	N/A	64	N/A
#8	124	240	114	161	106	149

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2}											
	PLYWOOD 15/32" (0.39)		PLYWOOD 19/32" (0.39)		PLYWOOD 23/32" (0.50)		OSB 15/32" (0.50)		OSB 19/32" (0.50)		OSB 23/32" (0.50)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	46	57	73	63	144	114	36	40	41	45	41	45
#8	68	77	75	80	179	139	37	53	41	53	64	56

¹ Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a $C_D = 1.0$. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

² Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.

³ Head pull-through values for #6 diameter and larger in Southern pine, Douglas-Fir, Hem Fir and Spruce-Pine-Fir are minimum 1.0" side member thickness.

⁴ Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.

⁵ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

DIAMETER	BENDING YIELD STRENGTH ¹ , f_y (psi)	ALLOWABLE STEEL STRENGTH (lbs)	
		TENSILE	SHEAR ²
#6	196,000	270	270
#8	171,000	340	305

¹ Bending yield strength, f_y , is determined in accordance with *ASTM F1575* using minor thread diameter when fastener is tested in thread section.

² Shear strength is determined in accordance with *AISI S904* using minor thread diameter when fastener is tested in threaded section.

DIAMETER	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE ^{4,5,6} , Z (lbf)		
			WOOD SPECIES (SPECIFIC GRAVITY ^{2,3})		
			SP (0.55)	DF-L (0.50)	SPF/HF (0.42)
#6 x 1-1/2"	3/4"	3/4"	37	50	57
#8 x 1-3/4"	1"	3/4"	51	69	79
#8 x 2-1/2"	1"	1-1/2"	57	74	81

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Penetration depth includes the length of tapered tip.

² The species applies to both the main and the side members. Where the Members are different specific gravities, use the lower of the two.

³ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

⁴ The fastener orientation shall be perpendicular to the grain, and the underside of the fastener head shall be installed flush with the surface of the side member.

⁵ Lateral design values apply to both perpendicular grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁶ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS 11.3.1*.



PRODUCT SUBMITTAL



T-STAR *plus* TRIM HEAD ZINC MDF/HARDWOOD

DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE ^{1,3,4} , Z (lbf)	
			OSB ⁵ (0.50)	PLYWOOD ⁵ (0.39)
#6 x 1-1/2"	1-1/16"	7/16"	41	-
#6 x 1-1/2"	1-1/32"	15/32"	42	35
#6 x 1-1/2"	29/32"	19/32"	42	35
#6 x 1-1/2"	25/32"	23/32"	43	34
#8 x 1-3/4"	1-5/16"	7/16"	51	-
#8 x 1-3/4"	1-9/32"	15/32"	52	44
#8 x 1-3/4"	1-5/32"	19/32"	57	46
#8 x 1-3/4"	1-1/32"	23/32"	59	48
#8 x 2-1/2"	2-1/16"	7/16"	51	-
#8 x 2-1/2"	2-1/32"	15/32"	52	44
#8 x 2-1/2"	1-29/32"	19/32"	57	46
#8 x 2-1/2"	1-25/32"	23/32"	63	49

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.

² Penetration depth includes the length of the tapered tip.

³ Lateral design values apply to both perpendicular to grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁴ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

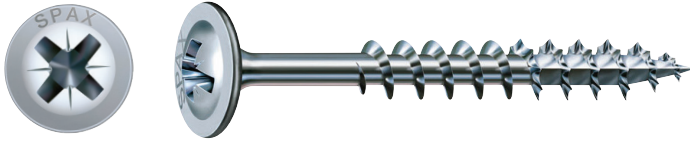
⁵ OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.



PRODUCT SUBMITTAL



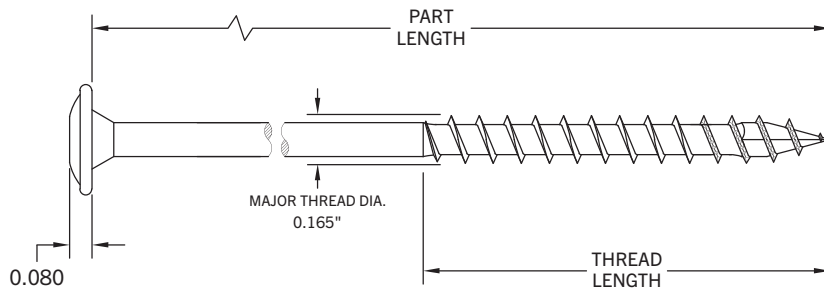
CROSS RECESS REAR PANEL WAFER HEAD ZINC



CROSS RECESS REAR PANEL WAFER HEAD ZINC

SPAX® Cross Recess Wafer Head fasteners with zinc coating are designed for use in multiple material connections often found inside residential buildings. Most of these screws are used to attach thin wood panels or backing materials to wood or MDF substrates where

countersinking the head is not wanted. The wide heads utilize a large bearing surface which allows for a firm hold on the attachment piece and reduces over-penetration of the head into the wood substrate.


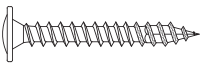


PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	DRIVE/BIT SIZE	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#8 x 1-1/4"	Full	0.375"	#2	30	Retail Pax**	10	4281010400302

NOTE: Only sold in master cartons.

FASTENER LENGTH

PART LENGTH	HEAD	FASTENER
#8 x 1-1/4"		

MASONRY & CONCRETE PRE-DRILL SPECIFICATIONS

NOTE: In masonry/concrete, pre-drill a hole at least 1/4" to 1/2" longer than the length of the screw (refer to chart). No anchor required. In sheet metal, no pre-drilling is required up to 24 gauge.

SCREW DIAMETER	DRILL BIT	WEIGHT
#8	1/8"	Light



PRODUCT SUBMITTAL



CROSS RECESS REAR PANEL WAFER HEAD ZINC

PERFORMANCE SPECIFICATIONS



TER No. 2010-02
Construction Screw Properties

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2,3,4}					
	SOUTHERN PINE (SG=0.55)		DOUGLAS-FIR (SG=0.50)		HEM FIR & SPRUCE-PINE-FIR (SG=0.42)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#8	175	335	133	297	127	268

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H) ^{1,2}											
	PLYWOOD 15/32" (0.39)		PLYWOOD 19/32" (0.39)		PLYWOOD 23/32" (0.50)		OSB 15/32" (0.50)		OSB 19/32" (0.50)		OSB 23/32" (0.50)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#8	51	146	83	190	162	319	36	86	48	110	52	131

¹ Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a $C_D = 1.0$. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

² Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.

³ Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.

⁴ For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

DIAMETER	BENDING YIELD STRENGTH ¹ , f_y (psi)	ALLOWABLE STEEL STRENGTH (lbs)	
		TENSILE	SHEAR ²
#8	187,000	460	345

¹ Bending yield strength, f_y , is determined in accordance with *ASTM F1575* using minor thread diameter when fastener is tested in thread section.

² Shear strength is determined in accordance with *AISI S904* using minor thread diameter when fastener is tested in threaded section.

DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION ¹ (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE ^{1,3,4} , Z (lbf)	
			OSB ⁵ (0.50)	PLYWOOD ⁵ (0.39)
#8 x 1-1/4"	13/16"	7/16"	40	-
#8 x 1-1/4"	25/32"	15/32"	40	33
#8 x 1-1/4"	21/32"	19/32"	42	32

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

¹ Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.

² Penetration depth includes the length of the tapered tip.

³ Lateral design values apply to both perpendicular to grain (Z_{\perp}) and parallel to grain (Z_{\parallel}) orientations.

⁴ Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.

⁵ OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.

